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EXAMINER

VENT, JAMIE J

ART UNIT PAPER NUMBER

2616

DATE MAILED: 02/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/752,721

Applicant(s)

SEO, BUM JOO

Examiner

Jamie Vent

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 7, 2005 has been entered.

Response to Arguments

Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-23 are rejected under 35 U.S.C. 103(a) unpatentable by Gordon et al (US 6,481,012) in view of Nijima et al (US 5,903,314).

[claim 1]

In regard to Claim 1, Gordon et al, discloses a method for supporting a picture-in-picture (PIP) type time shifting comprising:

- a first display step of receiving a plurality of broadcasting programs received through a broadcasting network, and displaying the respective live broadcasting programs through a PIP structure on the screen (Figure 1 la shows the display of the real time broadcast programs (1004, 1006, and 1008) received from a broadcast network such as a cable television (Column 1 Lines 25-30);
- a second display step of selectively storing in a storage section one among the plurality of broadcasting programs displayed at the first display step, and selectively reproducing the stored broadcasting program through the time shifting to display the stored broadcasting program on the screen (Figure 14 shows the memory 1476 which stores the program that is selected to be stored as described in Column 13 Lines 48-56); however, fails to disclose a third display step of displaying through the PIP structure on the screen at least one of the live broadcasting programs simultaneously with the second display step.

Nijima et al discloses a system wherein programs are processed and displayed in a multi-screen as seen in Figure 20 and described in Column 10 Lines 9+. Additionally, it is noted that in Column 9 Lines 20-40 describe that the broadcasting channels that are being displayed are live broadcasting programs and time-shifted broadcasting programs that are entered through the system allows the viewer the ability to see multiple programs prior to selecting desired program for watching. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the

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supporting picture-in-picture type time shifting apparatus, as disclosed by Gordon et al, and further incorporate a system that shows multi-channels through one screen, as described by Nijima et al.

[claim 2]

In regard to Claim 2, Gordon et al discloses a third display step further comprising the step of removing the picture of the selected broadcasting program reproduced through the time shifting, and displaying the plurality Of the currently received live broadcasting programs through the PIP (Figure 28 shows the selection of a real time/live broadcast which is reproduced as described in Column 14 Lines 10-20 and further displayed with the plurality Of currently received programs as seen in Figure 32 which shows the method Of displaying the various broadcast signals).

[claim 3]

In regard to Claim 3, Gordon et al discloses a method wherein the third display step further comprises the steps of:

- removing the corresponding live broadcasting program currently received and storing the corresponding live broadcasting program in the storage section (Figure 23a shows the object of each corresponding real time and non real time program to be displayed through the PIP while 23b shows the object and slice information that is stored from each program thereby further showing in Figure 31 the removing of the desired program and storing the section as described in Column 14 Lines 20+);

- reproducing the stored corresponding broadcasting program (Column 14 lines 10-20 describes the recording functions that are available to the user and further describes the reproducing Of the broadcasting program); and
- displaying the currently received live broadcasting program and the reproduced broadcasting program through the PIP structure on the screen (Figure 29 shows the method of displaying the live broadcast program which is selected for reproducing while Figure 27 shows the PIP display to the user).

[claim 4]

In regard to Claim 4, Gordon et al discloses an apparatus for supporting a PIP type time shifting, as previously recited in Claim 1, additionally comprising:

- a NTSC/PAL encoding section for compressing and encoding an analog broadcasting signal received through a broadcasting network (Figure 2 shows encoding unit 216 which encodes the analog broadcast signal as further described in Column 4 Lines 42+);
- a demux section for selecting one of the analog broadcasting signal outputted from the NTSC/PAL encoding section and a digital broadcasting signal inputted through the broadcasting network (Figure 14 transport demux 1430 describes the selection Of the broadcast signal from the demodulator circuit as further described in Column 13 Lines 31-40);
- a packet identifier (PID) filter section for filtering a plurality of TP stream packets to discriminate packets which coincide with packet identifiers

(PIDs) desired to be recorded (Figure 14 PID filter 1404 filters through the TP stream packets to choose desired content as described in Column 14 Lines 20+);

- storage section interface for enabling the TP stream packet selectively filtered through the PID filter section to be stored in a storage device with desired information added thereto and for enabling the desired YP stream among the TP streams stored in the storage device to be searched and read out (Figure 14 shows a memory 1476 which is used for a storage section of items that are filtered through the PID filter section as described in Column 13 Lines 50+ and Column 14 Lines 1-30); and
- a remux section simultaneously outputting at least one of the TP stream packets transmitted for a live broadcast and the time shifted TP stream packets read out from the storage device, the output TP stream being converted into a display signal supporting a PIP function (Figure 25 remux 2506 corresponds to the PID function by selecting the TP stream packets as further described in Column 22 Lines 58+).

[claims 5, 6, & 7]

In regard to Claims 5, 6, and 7, Gordon et al discloses an apparatus wherein live PIP reproduction of all the inputted TP stream packets, the PID filter section, the storage section interface, and the remux section are all defined to be in a disable/enable state (Column 26 Lines 10-20 describes the disable state Of the input TP stream packets, PID filter section, storage section and remux section when non-real time content source

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is processed and thereby no reproduction is present and the various components of the apparatus is disabled. Column 26

Lines 20-58 further describes the above listed components to be in an enable the when real-time content source is being processed and thereby reproduction is taking place in the system).

[claim 8]

In regard to Claim 8, Gordon et al discloses an apparatus wherein the PIDs of the TP stream packets have different values from one another (Figure 3 shows the various different unique values of the PIDs.)

[claims 9 & 19]

In regard to Claims 9 and 19, Gordon et al discloses an apparatus supporting a time-shifted picture-in-picture display, the apparatus comprising:

- an input source for generating a plurality of signal components formed of a plurality of transport streams, each transport stream consisting of a series of transport packets having a corresponding packet identifier (Column 13 Lines 19-30 describes the input source generating a plurality of signal components that are formed from a transport stream. It is further discussed in Column 5 Lines 4-14 that the transport packet has corresponding identifiers for each packet of information);
- a packet identifier filter for discriminating the plurality of transport streams output from said input source, to separate the transport

streams according to packet identifier, the separated transport streams including at least one transport stream for a time-shifted display and at least one transport stream for a live display, and for outputting at least one of the separated transport streams as a live transport stream (Column 14 Lines 25-55 describes the extraction of information from the transport stream wherein the transport stream is separated into identifiers for the on screen display);

- a storage interface for selectively storing in a storage device the separated transport streams according to packet identifier, for accessing at least one stored transport stream, and for selectively outputting the accessed transport stream as a time-shifted transport stream; and a re-multiplexer for selectively outputting at least one of the live transport stream output from said packet identifier filter and the time-shifted transport stream output from said storage interface, the output transport stream being converted into a display signal supporting a picture-in-picture function (Column 13 Lines 48-67 describes the storage of the transport stream on a frame by frame basis based on the filter identifier and transport stream information);
- a display device for displaying the converted display signal output from said re-multiplexer (Column 13 Lines 54-57 describes the display device for displaying the output from the video processor).

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[claim 10]

In regard to Claim 10, Gordon et al discloses an apparatus wherein the time-shifted transport stream output from said storage interface includes data selectively applied according to the picture-in picture function (Column 14 Lines 48-57 describes the storage being based on the images provided from video display/ picture in picture function).

[claims 11 & 21]

In regard to Claims 11 and 21, Gordon et al discloses an apparatus wherein, to reproduce using the picture-in-picture function a live image for each of the plurality of transport streams, each of said packet identifier filter, said storage interface, and said re-multiplexer is disabled (Column 14 Lines 20-67 describes the reproduction of a picture-in-picture image by disabling various interfaces).

[claims 12 & 22]

In regard to Claims 12 and 22, Gordon et al discloses an apparatus, wherein, to reproduce a full-display image corresponding to one time-shifted transport stream among the plurality of transport streams, each of said packet identifier filter and said storage interface is enabled and said re-multiplexer is disabled (Column 23 Lines 20-67 describes the selection and reproducing of a full display image as further seen in Figure 28).

[claims 13 & 23]

In regard to Claim 13, Gordon et al discloses an apparatus, to reproduce using the picture-in-picture function to display simultaneously the plurality of transport streams so

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that the simultaneously displayed transport streams transport stream and at least one live include at least one time-shifted transport stream, each of said packet identifier filter, said storage interface, and said re-multiplexer is enabled (Column 26 Lines 7-67 describes the picture-in-picture function to display live broadcast streams).

[claim 14]

In regard to Claim 14, Gordon et al discloses an apparatus wherein said input source comprises:

- at least one broadcast signal received from a broadcast network, said at least one broadcast signal including the plurality of signal components (Figure 2 shows the input of the broadcast signal received from the broadcast network);
- a de-multiplexer, having a plurality of input terminals for respectively receiving said at least one broadcast signal, for selectively outputting one of said at least one broadcast signal to said packet identifier filter (Figure 24 shows the selection of input signals and the receiving of at least one broadcast signal to be entered into the system).

[claims 15 & 18]

In regard to Claims 15 and 18, Gordon et al discloses an apparatus wherein said at least one broadcast signal includes at least one analog broadcast signal and at least one digital broadcast signal (Column 6 Lines 2-35 describes the broadcast stream that is entered into the system as further seen in Figure 2. Furthermore, depending on source of the broadcast stream the input stream can be either digital or analog).

[claim 16]

In regard to Claim 16, Gordon et al discloses an apparatus as further comprising:

- an NTSC/PAL encoder for compressing and encoding the received analog broadcast signal and outputting the compressed and encoded signal to one input terminal of said de-multiplexer (Figure 2 shows encoding unit 216 which encodes the analog broadcast signal as further described in Column 4 Lines 42+).

[claim 17]

In regard to Claim 17, Gordon et al discloses an apparatus further comprising a display device for displaying the converted display signal output from said re-multiplexer (Column 13 Lines 54-57 describes the display signal output received from the video processor).

[claim 19]

In regard to Claim 19, Gordon et al discloses A digital television supporting a time-shifted picture-in-picture display, the digital television comprising:

- a de-multiplexer having a plurality of input terminals for receiving at least one analog broadcast signal and at least one digital broadcast signal from a broadcast network, each broadcast signal including a plurality of signal components respectively formed of a plurality of transport streams and each transport stream consisting of a series of transport packets having a corresponding packet identifier, said de-multiplexer selectively outputting a broadcast signal corresponding to one of the plurality of input terminals;

- a packet identifier filter for discriminating the plurality of transport streams output from said de-multiplexer, to separate the transport streams according to packet identifier, the separated transport streams including at least one transport stream for a time-shifted display and at least one transport stream for a live display, and for outputting at least one of the separated transport streams as a live transport stream ;
- a storage interface for selectively storing in a storage device the separated transport streams according to packet identifier, for accessing at least one stored transport stream , and for selectively outputting the accessed transport stream as a time-shifted transport stream;
- a re-multiplexer for selectively outputting at least one of the live transport stream output from said packet identifier filter and the time-shifted transport stream output from said storage interface, the output transport stream being converted into a display signal supporting a picture-in-picture function; and

[claim 20]

In regard to Claim 20, Gordon et al discloses a digital television further comprising:

- an NTSC/PAL encoder for compressing and encoding the received analog broadcast signal and outputting the compressed and encoded signal to one input terminal of said de-multiplexer (Figure 2 shows encoding unit 216 which encodes the analog broadcast signal as further described in Column 4 Lines 42+).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Rothmuller (US 5,635,989);
- Shigihara (US 5,537,153).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jamie Vent whose telephone number is 571-272-7384. The examiner can normally be reached on 7:30am-5:00pm.

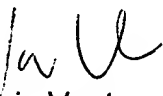
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Jamie Vent
02/16/06

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